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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,949	01/27/2004	Yu-Chieh Lin	PMXP0171USA	1948

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EXAMINER	
QUIETT, CARRAMAH J	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,949	LIN, YU-CHIEH	
	Examiner	Art Unit	
	Carramah J. Quiett	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-16,18-20 and 23-26* is/are pending in the application.

4a) Of the above claim(s) *4-6,9-11 and 19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,8,12-16,18, 20, and 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment(s), filed on 08/03/2005, have been entered and made of record. Claims 1-6, 8-16, 18-20, and 23-26 are pending, claims 4-6, 9-11, and 19 have been withdrawn, claims 7, 17, and 21-22 are canceled, and claims 23-26 have been added.

Response to Arguments

2. Applicant's arguments with respect to claims 1-3, 8, 12-16, 18, and 20 have been considered but are moot in view of the new ground(s) of rejection.

Due to the amendments to claims 1 and 14, the Examiner has withdrawn the rejections to these claims as well as the dependent claims, which was discussed in the previous Office Action. For the present Office Action, claims 1, 8, 12-13, and 23-24 are rejected using Saari in combination with Belliveau. Claims 2-3 are rejected using Saari in combination with Belliveau and Motta. Also, claims 14-18, 20, and 25-26 are rejected using Saari in combination with Motta and Belliveau.

In response to the Applicant's Remarks regarding the previous Office Action, the Applicant asserts (throughout the Remarks) that the Belliveau reference in combination with the primary reference, Saari, does not answer the following question: how can such a strobe be mounted to move with the reflector (e.g. 84 in Saari's Fig. 10) and still illuminate subjects at both 82 and 74? This particular question is not apart of the claims. Please note that the amendment to claims 1 and 14 is recited as:

> ...the reflector module comprises:
> a pedestal turning on a second axis;

a reflector installed on a side of the pedestal for reflecting the light from the first hole or the second hole to the photosensor;

a strobe installed on the pedestal and being capable of turned along with the pedestal for providing a light source necessary for the digital image capturing apparatus…

Belliveau is used to teach the limitations that differ from Saari (and Motta). Modifying Saari's digital image capturing apparatus with a strobe installed on a pedestal, as taught by Belliveau, will provide adequate projection of the image into the camera (photosensor). Besides, the Applicant uses "capable of" language.**

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. **Claims 1, 8, 12-13, and 23-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Belliveau (U.S. Pat. App. Pub. 2004/0114043).

For **claim 1**, Saari discloses (figs. 1-3 and 5) a digital image capturing apparatus (10) comprising:

a housing (12)/(col. 4, lines 21-24);

a first hole (38) installed on the front side of the housing for inputting light from the front; (col. 4, lines 46-49)

a second hole (50) installed on the rear side of the housing for inputting light from the rear (col. 5, lines 38-41);

a reflector module (116) installed in the housing for reflecting the light input from the first hole or* the second hole (col. 6, lines 10-18), the reflector module (fig. 10) comprises:

a pedestal turning (86) on a second axis (col. 7, lines 22-36);

a reflector (84) installed on a side of the pedestal for reflecting the light from the first hole or the second hole to the photosensor (col. 7, lines 22-36 and fig. 5);

a photosensor (fig. 10, ref. 72) installed in the housing for sensing the light from the reflector module (col. 7, lines 22-27); and

an image generating module (inherently) installed in the housing for generating an image according to the light sensed by the photosensor (col. 5, lines 27-34 and 40-47). Saari inherently teaches an image generating module installed in the housing because in photography mode a captured image can be displayed on the screen (fig. 1, ref. 16).

However, Saari does not disclose a strobe installed on the pedestal and being *capable of*** turned along with the pedestal for providing a light source necessary for the digital image capturing apparatus. In a similar field of endeavor, Belliveau discloses a digital image capturing apparatus wherein the reflector module (figs. 3/5, ref. 230) comprises: a strobe (345) installed on a pedestal (225) and being *capable of*** turned along with the pedestal (pg. 3, pgph. 33) for providing a light source necessary for the digital image capturing apparatus (pg. 4, pgph. 39). In light of the teaching of Belliveau, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a strobe installed on a pedestal in order to provide adequate projection of the image into the camera (photosensor) (Belliveau, pg. 3, pgph. 33).

For **claim 8**, Saari, as modified by Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle

with the mirror, which is traced out by the dotted lines. However, Saari and Belliveau do not expressly disclose a digital image capturing apparatus wherein the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. Examiner takes Official Notice that is well known in the art for the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Belliveau, with an acute angle formed by the second axis and the normal line of the reflector is 45 degrees in order to adequately focus the image signals into the image sensor via the lens.

For **claim 12**, Saari, as modified by Belliveau, inherently discloses a digital image capturing apparatus wherein both the first hole and the second hole are installed with at transparent material (col. 4, lines 47-64). Saari teaches that a close-up lens (36), mounted within the recess (38), is made of transparent plastic. He also teaches that other parts of the terminal are made of this material (col. 4, lines 59-64).

For **claim 13**, Saari, as modified by Belliveau, discloses a digital image capturing apparatus (fig. 1, ref. 10) being a *digital camera** or a digital camcorder. Saari teaches that the mobile communication terminal (10) has a photography mode, which allows the terminal to serve as a digital camera (col. 5, lines 35-47).

For **claim 23**, Saari, as modified by Belliveau, the digital image capturing wherein the second axis is inherently perpendicular to a shortest line connecting the front side of the housing to the rear side of the housing (Saari, figs. 8/10; col. 7, lines 1-36).

For **claim 24**, Saari, as modified by Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10

(Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari and Belliveau do not expressly disclose the digital image capturing apparatus wherein an angle formed by the second axis and a normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. Examiner takes Official Notice that is well known in the art for an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Belliveau, with an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees in order to adequately focus the image signals into the image sensor via the lens.

5. **Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Belliveau (U.S. Pat. App. Pub. 2004/0114043) as applied to claim 1 above, and further in view of Motta et al. (U.S. Pat. 6,809,772).

For **claim 2**, Saari, as modified by Belliveau, discloses a digital image capturing apparatus further comprising (fig. 10) a lens (70) installed between the reflector module (84) and the photosensor (72) for focusing the light from the reflector module onto the photosensor (col. 7, lines 22-36). However, he does not disclose a lens group installed between the reflector

module (42) and the photosensor for focusing the light from the reflector module onto the photosensor.

In a similar field of endeavor, Motta discloses a digital image capturing apparatus (fig. 3, ref. 20) further comprising a lens group (25/26) (fig. 3; col. 3, lines 42-57). In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus by substituting the lens for a lens group, which provides a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

For **claim 3**, Saari, as modified by Belliveau, discloses a digital image capturing apparatus further comprising (figs. 5/10) a first lens (fig. 10, ref. 70) installed between the first hole (fig. 5, ref. 124) and the reflector module (fig. 10, ref. 84) for focusing the light from the first hole onto the photosensor (fig. 10, ref. 72), and a second lens (fig. 10, ref. 76) installed between the second hole (fig. 5, ref. 108) and the reflector module (fig. 10, ref. 84) for focusing the light from the second hole onto the photosensor (fig. 10, ref. 72). Please read col. 6, lines 8-24 and (col. 7, lines 22-36). Saari does not expressly disclose a first lens group installed between the first hole and the reflector module for focusing the light from the first hole onto the photosensor, and a second lens group installed between the second hole and the reflector module for focusing the light from the second hole onto the photosensor.

In a similar field of endeavor, Motta discloses a digital image capturing apparatus (fig. 3, ref. 20) further comprising a lens group (25/26) (fig. 3; col. 3, lines 42-57). In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus by substituting the lens

for a lens group, which provides a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

6. **Claims 14-16, 17, 20, and 25-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Motta et al. (U.S. Pat. 6,809,772) and Belliveau (U.S. Pat. App. Pub. 2004/0114043).

For **claim 14**, Saari discloses (figs. 1-3 and 5) a digital image capturing apparatus (10) comprising:

a housing (12) (col. 4, lines 21-24);

a lens (36) installed on the housing for inputting light *from the front** (col. 4, lines 47-64) or from the rear of the housing;

a reflector module (116) installed in the housing for reflecting the light input from the lens (col. 6, lines 10-18), the reflector module (fig. 10) comprising:

a pedestal turning (Saari, fig. 10, ref. 86) on a second axis (Saari, col. 7, lines 22-27);

a reflector (Saari, fig. 10, ref. 84) installed on a side of the pedestal for reflecting the light from the lens to the photosensor (Saari, col. 7, lines 22-27 and fig. 5).

a photosensor (fig. 10, ref. 72) installed in the housing for sensing the light from the reflector module (col. 7, lines 22-27); and

an image generating module installed in the housing for generating an image according to the light sensed by the photosensor. (col. 5, lines 27-34 and 40-47). Saari teaches an image generating module installed in the housing because in photography mode a captured image can be displayed on the screen (fig. 1, ref. 16).

However, Saari does not expressly disclose a lens being *capable of*** moving back and forth. In a similar field of endeavor, Motta discloses a lens (25/26) installed on the housing, being *capable of*** moving back and forth, for inputting light *from the front** (fig. 3; col. 3, lines 42-57) or from the rear of the housing. In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a lens being *capable of*** moving back and forth in order to provide a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

Additionally, Saari and Motta do not expressly disclose a strobe installed on the pedestal and being *capable of*** turned along with the pedestal for providing a light source necessary for the digital image capturing apparatus. In a similar field of endeavor, Belliveau discloses a digital image capturing apparatus wherein the reflector module (figs. 3/5, ref. 230) comprises: a strobe (345) installed on a pedestal (225) and being *capable of*** turned along with the pedestal (pg. 3, pgph. 33) for providing a light source necessary for the digital image capturing apparatus (pg. 4, pgph. 39). In light of the teaching of Belliveau, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a strobe installed on a pedestal in order to provide adequate projection of the image into the camera (photosensor) (Belliveau, pg. 3, pgph. 33).

Regarding **claim 15**, this claim is an apparatus claim corresponding to apparatus claim 2. Therefore, apparatus claim 15 is analyzed and rejected as previously discussed with respect to claim 2.

For **claim 16,** Saari, as modified by Motta and Belliveau, discloses a digital image capturing apparatus wherein the reflector module is installed in the housing. However, he does not expressly disclose a digital image capturing apparatus wherein the reflector module is *capable of*** moving along with the lens. Official Notice is taken in that it is well known in the art for a reflector module, in a digital image capturing apparatus, to *be capable of*** moving along with the lens. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a reflector module that is *capable of*** moving along with the lens to ensure that the image light can enter the image pickup element perpendicularly.

For **claim 18**, Saari, as modified by Motta and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari does not expressly disclose a digital image capturing apparatus, wherein the acute angle formed by the fourth axis and the normal line of the reflector is 45 degrees. Examiner takes Official Notice that is well known in the art for the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Motta, with an acute angle formed by the second axis and the normal line of the reflector is 45 degrees in order to adequately focus the image signals into the image sensor via the lens.

For **claim 20**, Saari as modified by Motta and Belliveau, discloses a digital image capturing apparatus (Saari, fig. 1, ref. 10) being *a digital camera** or a digital camcorder. Saari teaches that the mobile communication terminal (10) has a photography mode, which allows the terminal to serve as a digital camera (col. 5, lines 35-47).

For **claim 25**, Saari as modified by Motta and Belliveau, discloses the digital image capturing apparatus wherein the second axis is perpendicular to a shortest line connecting the front side of the housing to the rear side of the housing (Saari, figs. 8/10; col. 7, lines 1-36).

For **claim 26**, Saari as modified by Motta and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari, Motta, and Belliveau do not expressly disclose the digital image capturing apparatus wherein an angle formed by the second axis and a normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. Examiner takes Official Notice that is well known in the art for an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Motta and Belliveau, with an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees in order to adequately focus the image signals into the image sensor via the lens.

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*__Note__: The U.S. Patent and Trademark Office considers Applicant's "or" language to be anticipated by any reference containing one of the subsequent corresponding elements.

__Note__: The U.S. Patent and Trademark Office considers the Applicant's phrases such as "...a lens being *capable of* moving back and forth..." and "...a strobe installed on the pedestal and being *capable of* turned along with the pedestal..." as used in the claims broadens the scope of the claims. If a limitation is written with "capable of" language, a reference is deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable of performing it.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kaneko (6,822,685)	A camera with a strobe board, which extends in a plane substantially perpendicular to the bottom image-pickup board and main board.
Abe et al. (6,023,590)	A camera where the light source moves in a direction perpendicular to the width of the recording medium.
Narabu (6,917,385)	An image input device comprises a mirror body which is designed in a polygonal prism form and has side peripheral surfaces each formed of a mirror face
Ochi (6,426,776)	A scanning mechanism is provided with a light source for emitting light for irradiating the object.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
October 28, 2005

NGOC-YEN VU
PRIMARY EXAMINER